

Non-emergent 911 calls for medical service in Carmel Indiana

David G. Haboush

Carmel Fire Department, Carmel, IN.

CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

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Abstract

The American Fire Service has been charged with the care and responsibility of being the first responders when tragedies strike. Many of these events are medical problems with the citizens and visitors of our communities. The Fire Service has been asked to do more and more each year yet many operating budgets continue to get smaller. The Carmel Fire Department has been asked to perform these same services yet our resources have not grown and remain stagnant. As the number of calls for emergency medical runs continues to increase, each year the apparatus and firefighters make more runs. Our community's population has continued to grow and so has the number of calls for Emergency Medical Services. The problem was the Carmel Fire Department (CFD) has not identified the underlying factors that result in non-emergent 911 Emergency Medical calls. Carmel Fire Department has experienced an increase in the number of 911 calls for emergency medical services which require a response from Carmel Firefighters. The purpose was to identify the underlying factors that result in non-emergent Emergency Medical Services (EMS) calls. The research method used was descriptive. CFD conducted a survey of shift firefighters who respond to 911 E.M.S. calls to access some of the factors associated with non-emergent medical calls for service. The research questions answered were: (a) Who was making the 911 calls? (b) What were the call types? (C) When were these runs occurring? (d) Where were these calls occurring? (e) Why are these runs occurring? The results showed that the majority of calls for service were from nursing facilities and/or assisted living facilities. The recommendations from these findings will be used to implement an advocacy program to help identify patients and problems associated with non-emergent calls for service.

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Introduction

The American Fire Service in 2001 suffered a devastating tragedy during the terrorist attacks on the World Trade Center in New York on September 11th. The public interest in knowing what the local fire department was doing was not a daily topic before this day and the public view was changed forever. In the days following 9/11 politicians and the public were very interested in the fire service. Money that had not been afforded to the fire service instantly became available and out of the tragedy came hope in the way of funding for the local fire departments. After honoring the tenth anniversary of this event it appears that funding has fallen off and the fire service has again fallen on harder times. Local fire departments have been asked to do more work with fewer personnel. In many cases fire departments have not hired new firefighters to replace retiring members. Additionally many of the departments around the country have laid off existing firefighters in order to balance the city budget. The Carmel Fire Department has been blessed in the fact that none of these situations have occurred in this organization. However, CFD Firefighters have been asked to do more with the same amount of resources. Specifically the number of calls for emergency medical calls continues to rise each year resulting in more patients being treated and transported to area hospitals for evaluation. Some of these calls for service were for transportation to a hospital facility for care and not necessarily emergency transport for care in an emergency room.

The problem was the Carmel Fire Department has not identified the underlying factors associated with non-emergent medical calls for service in the Carmel Community. The purpose of this research was to identify some of the factors in order to reduce the number of non-emergent medical calls for service. The descriptive research method was used to find answers to the following questions. The research questions were: (a) Who was making the 911 calls? (b)

What were the call types? (C) When were these runs occurring? (d) Where were these calls occurring? (e) Why are these runs occurring? By seeking to answer these questions, CFD could work toward preventing some of the non-emergent medical 911 calls for service by identifying the factors associated with them. Gordon Graham has stated “if it’s predictable it’s preventable”. (LA accident Lawyer, 2010). If CFD were to be able to predict some of these calls for service by studying this information, the organization should be able to prevent some of these events from occurring.

Background and Significance

The Carmel Fire Department has been charged with the care and responsibility of mitigating hazards for the residents and visitors of Clay Township and the City of Carmel, Indiana. CFD provides Fire Protection, Hazardous Materials Response, and both Emergency Medical Response as well as transportation to the Emergency Department at area hospitals. Carmel Indiana is located directly north of the State Capital of Indianapolis, Indiana located in Marion County. Carmel’s geography consists of an area that is ten miles east to west and five miles south to north. These fifty square miles which include all of Clay Township and Carmel are located in the southwest corner of Hamilton County, Indiana. Carmel is a suburban area and is primarily made up of single family residences and is home to many corporate Headquarters. CFD consists of six fire stations with seven engines, two ladder trucks, five ambulances, two boats, and a hazardous materials unit. Firefighters respond to more than 5,200 calls for service a year. (<http://www.carmel.in.gov>). The population of Carmel and Clay Township is 83,293. ("2010 Census Summary File 2," 2010, table 2). In 2000, the population of Carmel, Clay Township was 64,709. ("Geographic Area: Clay Township, Hamilton County, Indiana," 2000, p.

1). This represents a 29 percent increase in population. The Carmel community is home to four hospitals. All four have Emergency Departments with varying specialties. One facility is a heart hospital, another is a level two trauma center, and the last two are typical hospitals. All of them have the capability of admitting patients on site to the respective hospitals. Carmel also has numerous nursing homes and extended care facilities located in the department's response district. Currently there are eight facilities operating in the immediate area. CFD Deputy Fire Marshal Chris Ellison advised there are plans submitted and approved for construction of two more locations for extended care facilities in this jurisdiction. (C. Ellison, personal communication, summer, 2012).

Every fire department has the usual patients who frequently call for EMS service. Captain Frazier from D.C.F.E.M.S. explained that firefighters sometime refer to these patients as frequent flyers. (L. Frazier, personal communication, summer, 2012). Firefighters get to know and interact with the patients during the call for help. During these runs CFD has responded to the same addresses repeatedly for the same patients as a normal course of doing business. There are multiple runs for the same patient and firefighters continue treat the signs and symptoms during each run. In some cases, the department has not gotten to the root of the patients problem, in that we have been oblivious to the fact that fire departments have continued to be reactive over and over when the call for help comes. The organization should be proactively working toward finding a solution to help these same individuals determine what ails them rather than continuing to treat just the signs and symptoms repeatedly. The significance of identifying the patients repeated calls for help is to be able to identify the causes of the 911 calls to deliver the help that the person needs. If CFD can identify the factors associated with some of these

calls, the department can work toward preventing the 911 response. In turn, the department can take a proactive approach in delivering the services the person needs and deserves.

The problem facing CFD contained in this Executive Fire Offers paper relates to the United States Fire Administration operational objective of responding appropriately in a timely manner to emerging issue. ("U.S.F.A. Fire Research Agenda," 2001, p. 3). In looking at the U.S.F.A. Strategic Goal of reducing risk at the local level through prevention and mitigation CFD continues to repeatedly respond on non-emergent runs to the same patients with lights and sirens. Once the unit is dispatched, the Firefighters are no longer able to take another run until they finish and mark back in service. During the non-emergent call, should another emergent call for service come in to the dispatch center, another response would be started from an outlying area. This delays service for the second call due to a longer travel time. The longer travel time could affect the outcome of the run.

This Applied Research Paper A.R.P. is related to the National Fire Academy N.F.A. Class Executive Analysis of Community Risk Reduction E.A.C.R.R. The community fire departments are charged with the responsibility of controlling the community risks from both nature and manmade. Several of these common occurrences are a result of mans' interaction and deemed an accident to the American Public. Through the National Fire Academy course E.A.C.R.R., risk prevention was looked at through anticipating potential hazards and risk mitigation through anticipating potential community hazards. (*EACRR-Student Manual*, 2011). As public safety responders, it is the departments' responsibility to attempt to place risk prevention and risk mitigation at the forefront of all program areas that are offered in for the community. A goal of the United States Fire Administration U.S.F.A. is to reduce risk at the local level through prevention and mitigation. (<http://www.usfa.fema.gov>).

Literature Review

In researching information about responding to non-emergent 911 medical calls for service, it became apparent that the fire service must work to become a prevention department versus a Fire, Rescue, or E.M.S. department. The fire service needs to be about educating the public to the hazards that they come into contact with each and every day. Through education, the Fire, Rescue and E.M.S. department have the potential to truly become a prevention department and take a proactive approach to our community's needs. Fire Chief Alan Brunacini simplifies what the fire service outlook should be about in his Mrs. Smith analogy. Mrs. Smith is the customer and the fire service is charged with taking care of the customers even on their worst days. (Elliott, 2000). In truly taking care of the customer or patient needs, the fire service will need to become a proactive prevention department.

The word emergent is defined as arising unexpectedly or calling for prompt action. (Merriam-Webster, n.d.). When the 911 system is activated it is assumed that firefighters are responding to a call for service because of an emergency.

A listing of non-emergency situations exists on the Blue Cross of Hawaii Insurance company website for customers to view. Non emergencies were defined as follows: a cold or the flu, earache, sore throat, using the emergency room for your convenience and using the emergency room for conditions able to be treated in a Doctor's office during normal office hours. ("Examples of non-emergency care," 2011).

In researching who is making the 911 non-emergent medical calls this researcher found the District of Columbia Fire Emergency Medical Services D.C.F.E.M.S. had dealt with a very similar problem. D.C.F.E.M.S. utilized their ambulance billing company to locate the top twenty-five high volume users of their 911 medical systems. (Garza, 2008). Of all the calls for

emergency medical generated it was estimated by the National Academies of Emergency Dispatch N.A.E.D. that twenty percent are classified as non-life threatening and do not require a paramedic or advanced life support (ALS). Many of these runs could be handled by less trained emergency medical technicians (E.M.T.) with basic life support (BLS). (Clawson, 2008). In America, it is estimated that about six percent of 911 calls for emergency services are not in need of a true emergency response and/or transport. The remainder of these calls do require an ambulance and should call 911, one staffed with emergency medical technicians and not a paramedic. (Clawson, 2008).

The United Kingdom has piloted a program to introduce a dedicated non-emergent phone number for patients to utilize as an alternative to calling 911 for service. The pilot program has a different three digit phone number and is designed to allow access to emergency information over the phone. Some of the information callers can access consists of afterhours health advice from Doctors, Dentists and Chemists to ask questions rather than going to the Emergency Department for this information. The government's approach is to provide a simple route of access to emergency information over the phone rather than everyone being seen in the Emergency Department. (Littler, 2010).

In researching the call types, the program "Street Calls Outreach Program" from D.C.F.E.M.S. identified their top 8 reasons for a patient referral for follow up. The referral program has identified a trend and requires all referrals to have written documentation provided with a telephone number. The purpose of gathering this information is to follow up with these patients in order to provide exactly what the patients' real needs are. In speaking with Dr. David Miramontes, Chief Medical Director for D.C.F.E.M.S., examples of referral of patients for D.C.F.E.M.S. program were homelessness, non-compliance with medications, lack of primary

care physician assistance, insufficient care in the home (neglect), abuse, chronic illness, hoarding, and frequent callers. (D. Miramontes, personal communication, Summer, 2012).

The OMEGA project is a system that prioritizes runs to get the patient the right level of care and has been used in other countries such as the U.K., Canada, and Australia to identify types of calls for emergency medical services. This system requires a detailed evaluation via the phone and a referral to a more appropriate healthcare option rather than the Emergency Department. They refer patients to Nurse Advocates, Poison Control, Suicide Help centers, help with scheduling doctor appointments and other social organizations. In no case was a caller ever told “this is not an emergency, we’re not coming, have a nice day.” (Clawson, 2008, para. 7). If the patient was still in need of an ambulance, firefighters would respond.

In Charlotte N.C. they have developed an E.M.S. system to prioritize the types of 911 calls for service and it has been named the OMEGA Project. The goal of the project is to create a patient-centered system of care that consistently delivers the right resources to the right place at the right time”. (Bagwell & Keith, 2009, para. 1) The results they found were that a large percentage of runs could be categorized as non-emergent. Throwing more resources at the problem did not make the situation any better in that, continuing to dispatch more ambulances did not improve anything, especially considering the economic impact of adding more ambulances. The OMEGA protocol consists of 5 levels:

Delta: ALS emergency response;

Charlie: ALS non-emergency response;

Bravo: BLS emergency response;

Alpha: BLS non-emergency response;

Omega: referral or alternative care. (Bagwell & Keith, 2009, para. 12).

The OMEGA project is a proactive approach to responding to the pre-hospital needs of the community. While randomly testing this project sub sets were created and the calls were typed: 62 percent sickness, 15 percent falls, 6 percent minor trauma, 3 percent diabetes and psychiatric illness. (Bagwell & Keith, 2009).

The Omega Project concept originated from and has been implemented in Richmond Va. They began the Community Health Access Program C.H.A.P. in 2004. In their program they implemented Registered Nurses (R.N.'s) into their 911 dispatching center and followed a specialized protocol designed for callers who were deemed non-emergent. Approximately 20 percent of all 911 calls were ultimately deemed acceptable for secondary care as non-emergent. (Bagwell & Keith, 2009).

Another creative example of priority dispatching has been implemented in Cleveland, Ohio. Cleveland EMS began prioritizing non-emergent runs and placing them in a holding pattern to ensure that they have enough ambulances ready to respond to more emergent call types. They hold back ten ambulances to ensure that they have resources for their most critical life threatening runs and then start to dispatch ambulances on Bravo, Alpha and Omega runs. Additionally, no ambulance would be dispatched for minor complaints. Instead, they would be given information for referrals to clinics and agencies to better assist them with the care they need. If a patient did need to be transported and they were waiting, a dispatcher would continue to be in contact with the patient to ensure their condition has not gotten worse. If it had, the call type will be upgraded and an ambulance would arrive sooner. Interestingly, Cleveland EMS took a proactive approach in announcing the changes to the prioritizing dispatching system. They met with the media and explained the intentions, rationale, motives behind the changes and through educating the public, the response were positive. (Doyle, 2010).

In researching when the runs are occurring D.C.F.E.M.S. categorized all of the runs they responded to into monthly reports. Again they concentrated on the twenty-five highest frequency users of the 911 emergent medical calls. The time component was not a factor in identifying the patients who were non-emergent to address their true needs. (L. Frazier, personal communication, summer, 2012). At Cleveland E.M.S. all non-emergent calls for service are triaged and automatically go into a holding pattern to ensure that life threatening calls have a transporting ambulance available to respond. (Doyle, 2010). For Cleveland EMS, the time component was not a factor for non-emergent runs.

In researching where the runs are occurring D.C.F.E.M.S. studies and reports the highest frequency 911 users and has the “street calls outreach program” crews do follow up with the patients. Each reporting cycle the names of patients change due to the most frequent users’ ability to obtain the correct needs assessment through the Street Calls Outreach Program. These crews respond and follow up to give advice to the patients regarding the different options afforded to them rather than calling 911. While the crews are with the patients, they are either treated or given a health assessment, while others are referred for dialysis, mental health counseling, or housing assistance. (Lipscomb, 2008). It has been pointed out that many of the non-emergent patients have multiple problems and when firefighters respond to them, it is important to listen, examine, explain, and treat. “If firefighters miss this process then they will miss the real cause(s) of the patient’s current problem.” (Gandy & Kelly, 2011, p. 29).

In the early 1980’s Detroit Fire Department was overwhelmed with 911 calls for service. They ran an advertisement campaign “Do not call us unless it is a true emergency”. Upon review of the campaign the run totals went up by nearly 6 percent over the already overwhelming number prior to the campaign. The targeted individuals never considered that they

were the very people whom the campaign was designed to help stop with abuse in the 911 system. (Clawson, 2008, para. 12).

In researching why the runs are occurring D.C.E.M.S.'s Dr. Williams discussed the importance of reaching the top 911 callers. It was imperative because they are the most likely patients to die within the next year. Additionally, the cost associated with transporting these same patients has been significant. Taxpayers pay for many of these runs through Medicare and it will have a ripple down effect. (Lipscomb, 2008). Prior to the street smart program, the top twenty-five users of the 911 system activated a call for help more than 1,000 times in a year. The unrecovered cost for ambulance transport alone was over \$3,200,000. The patient's needs went far beyond the Emergency Department. Their needs included primary health care physicians for care with prescriptions, mental health services, homeless services and case management. During 2008, the call volume was reduced by 97% in the first year of the program. (D. Miramontes, personal communication, summer, 2012). With the OMEGA project it was pointed out that when people do not know where to turn for medical attention they call 911. This thinking will only compound the problems facing an already stressed EMS system. Most Emergency Departments have been facing overcrowding from patients who are not truly in need of emergency medical assistance. (Bagwell & Keith, 2009).

In Upland California, the city and fire department may start charging the skilled nursing facilities for responses for 911 calls for non-emergent runs. The fire department has made 476 runs and only transported less than one third of the patients to the hospital. This has caused a huge problem for the department. While Station 1 apparatus responds to the non-emergent call for service, another apparatus has to come from farther away into Station 1's coverage area to respond on emergent calls. Fire Chief Michael Antonucci said this situation has led to slower

response times to the emergent calls. Staff said that the nursing facility has been asked to utilize private ambulance services for non-emergent calls for transportation. (Emerson, 2011)

Another resource that helps advocate on behalf of patients is the Council on Aging. The local agency is C.I.C.O.A. Central Indiana Council on Aging and they serve as a resource for seniors, people with disabilities and family caregivers. (*A resource for seniors, people with disabilities and family caregivers*, 2012, p. 1). C.I.C.O.A.'s goal is to allow people to stay in their homes as long as possible by providing resources and options to ensure their quality of life. (K. Kunk, personal communication, July, 2012). Kate Kunk is a registered nurse and Caregiver Options Counselor with the Aging & Disability Resource Center. Some of the options available are access to information and resources, coordinated management of care services, nutrition, and home delivery of meals, transportation, and support for caregivers, home modifications to enable people to continue to live independently and advocacy for the individuals. (*A resource for seniors, people with disabilities and family caregivers*, 2012, p. 2)

Firefighters all around the country are facing very similar problems with patients calling 911 for non-emergent calls for E.M.S. responses. Dean Pedrotti points out firefighters need to be aware of their body language and tone used when dealing with some of the patients. He encourages firefighters to be sympathetic to the extenuating circumstances of the patients. With the current recession, he points out that things may get worse before they get better. "Maybe we need a shift in attitude... maybe our motto should become... "Prevent Harm, Survive, Be Compassionate." (Pedrotti, 2009, p. 100).

Procedures

To answer the research question of who is making the calls? A query was run within the CFD database to locate the addresses of those persons initiating the emergency 911 calls for medical services. In researching this question the records did not provide much incite as to whom the actual caller was calling 911 due to third party calls. The amount of good information available to identify who the actual caller was reporting the need for an emergent medical response proved to be a limitation. Another query was conducted looking for the high frequency users of the Carmel Clay Emergency Services. The billing office of the department was able to track both the location and place a patient's name for each call for service utilizing DataMed software. This information was then used with the departments run reporting software, New World to gain access to locations and response times. The top 5 patient names and locations of the responses and the nature of the calls were documented and used for data for this research.

To answer the research question of when are these runs occurring, DataMed and New World software were utilized. A query was performed to first identify the patients and their locations who were the high frequency users of the 911 system. The top five users of the system were used to track the time of the calls for emergent responses. The times were broken down into 3 time slots. The time slots were identified as daytime, evening, and night time calls. The first day response times started at 07:01 to 15:00, the second times started at 15:01 to 23:00 and the third times started at 23:01 to 07:00. CFD firefighters work 24 hour shifts. The shift change for the CFD takes place at 07:00.

To answer the research questions of what are the call types, where they are occurring and why are they occurring, a survey was conducted within the Carmel Fire Department. The survey questions were developed and later discussed with Dr. Michael Kauffman, CFD Medical

Director. (M. Kauffman, personal communication, summer 2012). All three shifts completed the survey while on duty. Each firefighter was asked to complete the survey the same day it was delivered to the station where they were working for their shift. The survey contained open ended questions in order to gather feedback that did not limit the firefighters and officers responses. By asking open ended questions each person was able to answer in their own words rather than checking a box with a predetermined answer to choose from. The purpose of the survey was to get open, honest feedback from each responder. This was done in order to accumulate information, as to their thoughts and feelings concerning the issue of non-emergent 911 calls for medical service in Carmel Indiana. (Appendix A)

The survey was completed by shift officers and firefighters, but not by the Administrative Staff. The reason the Administration wasn't asked to complete the survey was due to the fact that most do not respond on a regular basis to 911 calls for emergent medical calls. These duties are handled mainly by the 24 hour shift officers and firefighters. The shift firefighters and officers are ready to respond 24 hours a day and the administration works a Monday through Friday schedule, 40 hour week. Shift personnel consist of the ranks of Battalion Chief, Captains, Lieutenants, Engineers, and Firefighters. All shift members from these ranks participated in completing the exact same survey. All questions were listed in the same order on the survey and it was conducted in the summer of 2012. Each person filling out the survey was told that their answers would be anonymous and were told they would be informed as to the collective results of all of the information after being totaled.

A limitation on the survey may have been that the Battalion Chief was delivering, waiting for, and collecting the information from each shift member while the survey was conducted. This may have had an impact on the outcome of the survey. Another limitation may have been

that the researchers name was on the bottom of the survey. It was listed as a reference to clarify questions that could have arose while the survey was being conducted. Although the researcher did not receive any questions during the time period the survey was being conducted, the researchers' name being listed on the survey may have had an impact on the results. (Appendix A)

To answer the research question of where are these runs occurring; a query was conducted to identify the top locations that most frequently called for emergent 911 medical services in Carmel Clay Township. Once these addresses were located they were then identified by location to determine the type of occupancy. The types of occupancies were identified as a business, doctors office/ hospital, extend care facility/nursing home, apartment complex, multiple family dwelling, or single family dwelling. A limitation was that nursing homes and extended care facilities called 911 many times for non-emergent responses but for many different patients. This was due to the large number of people living in the facility. When patient names were used to identify the individuals there were very few multiple runs on any one resident. This information was not used for reporting purposes in this research.

Results

The results of this research were specific to the A.R.P. for the Carmel Clay Community and the Carmel Fire Department. In addressing the need to identify the underlying factors associated with 911 calls for emergent medical services, a survey was conducted within the ranks for shift personnel responding on the calls for assistance. The purpose of surveying the first responders was to gather information as to their thoughts and views concerning the calls for medical services. The shift firefighters were told the purpose of the survey was to identify some

underlying factors associated with Emergency Medical Services (EMS) calls. This same information was listed in a paragraph on the top of the page. (Appendix A) The questions contained in the survey were open ended to allow respondents to answer freely rather than multiple choice answers.

The survey was distributed to 120 shift firefighters and 107 were completed and returned to be tallied. This represented over 89 percent of the surveys handed out were returned and filled out. The first question asked as part of the survey was if they believed CFD responds to non-emergent 911 E.M.S. calls for service? 30 of 31 surveys received or 96 percent of the shift personnel from A crew believed that the CFD responds to non-emergent 911 E.M.S. calls for service. When B shift was surveyed, 29 of 35 surveys received or 83 percent believed that the CFD responds to non-emergent 911 E.M.S. calls for service. One member from B shift was not sure as to whether CFD responds to these types of calls. In surveying C shift, 36 of 41 surveys received or 88 percent believed that the CFD responds to non-emergent 911 E.M.S. calls for service. When combining all shift personnel who responded on calls for service 95 of 107 surveys received or 89 percent believe that CFD responds to non-emergent 911 E.M.S. calls for service. There were also 11 of the 107 or 10 percent shift personnel who do not believe that the CFD responds to non-emergent 911 E.M.S. calls for service. Once again, there was 1 firefighter out of 107 or less than 1 percent who was unsure as to whether CFD responds to these types of calls. (Appendix B.)

Question 1. Do you believe CFD responds to non-emergent 911 EMS Calls for Service?					
	Yes	No	Not Sure	TOTAL	
A Shift	30	1	0	31	
B Shift	29	5	1	35	
C Shift	<u>36</u>	<u>5</u>	<u>0</u>	<u>41</u>	
TOTAL	95	11	1	107	

The next question asked of the shift personnel was what percentage of E.M.S. calls do they believe are non-emergent? The A shift's most popular answer was 5 percent of 911 calls are for non-emergent responses. Eleven people answered 5 percent; followed by 8 people answering they believed 20 percent of 911 calls were non-emergent. Seven other people responded and believe that 10 percent of 911 calls for service are non-emergent. (Appendix C)

Question 2. If so, what percentage of EMS call do you believe are non-emergent?								
	0%	5%	10%	20%	30%	40%	60%	Not Sure
A Shift	0	11	7	8	0	3	0	2
B Shift	1	14	8	4	0	1	1	6
C Shift	<u>5</u>	<u>9</u>	<u>9</u>	<u>6</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>8</u>
TOTAL	6	34	24	18	4	4	1	16

The B shift had fourteen people believe that 5 percent of calls are non-emergent and was the most popular percentage. They also had eight members believe that 10 percent of calls were non-emergent calls for service. Six of the people believed that they were unsure as to if CFD responds to non-emergent 911 calls for service. (Appendix C)

Question 2. If so, what percentage of EMS call do you believe are non-emergent?								
	0%	5%	10%	20%	30%	40%	60%	Not Sure
A Shift	0	11	7	8	0	3	0	2
B Shift	1	14	8	4	0	1	1	6
C Shift	<u>5</u>	<u>9</u>	<u>9</u>	<u>6</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>8</u>
TOTAL	6	34	24	18	4	4	1	16

The members of C shift had both 5 percent and 10 percent of runs were non-emergent. Both answers each had nine people selecting these percentages. The next largest group of votes was eight members who were unsure as to whether CFD responds to non-emergent calls for service. (Appendix C)

Question 2. If so, what percentage of EMS call do you believe are non-emergent?								
	0%	5%	10%	20%	30%	40%	60%	Not Sure
A	0	11	7	8	0	3	0	2
B	1	14	8	4	0	1	1	6
C	<u>5</u>	<u>9</u>	<u>9</u>	<u>6</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>8</u>
TOTAL	6	34	24	18	4	4	1	16

When totaling all the number of responses the largest number of people believes that CFD responds to 5 percent of non-emergent 911 calls for service in the Carmel Clay Community. Thirty-four of 107 received or 32 percent of the surveys believe that out of all the calls for emergent medical service 5 percent of them are not actually emergencies. The second largest number of responses was the 10 percent category. Twenty four of the 107 received or 25 percent of all the shift members surveyed believed that of all runs CFD responds to, 10 percent of them are actually non-emergent calls. (Appendix C)

Question 2. If so, what percentage of EMS call do you believe are non-emergent?								
	0%	5%	10%	20%	30%	40%	60%	Not Sure
A	0	11	7	8	0	3	0	2
B	1	14	8	4	0	1	1	6
C	5	9	9	6	4	0	0	8
TOTAL	6	34	24	18	4	4	1	16

The next survey question asked; when on an E.M.S. call for service that you believe is non-emergent; does your patient describe why they called 911? The members from A shift most common answers were: no one to lift them, sick, need transportation to hospital, fall/lift assist, and pain/sprains. B shifts most common responses were: fall/lift assist, need transportation to the hospital, no one to help them, and pain/sprains. The crew from C shifts most common answer to this survey question was: fall/lift assist, no one to help them, need transportation to

hospital, and sick. Overall the survey answers from the three shifts were very similar. The two most common answers for why a non-emergent patient called 911 for an emergent response was fall/lift assist and there was no one else to help them. The third most common reason CFD responded to a non-emergent call, as described by the responders, was that the patient needed transportation to the hospital. This was followed up by sick calls and pains/sprains as to reasons patients call 911 for an emergent medical response. (Appendix D)

*Question 3. During the non-emergent EMS calls for service, does your patient describe why they called 911? If so, what are some of the reasons?				
	<u>A</u>	<u>B</u>	<u>C</u>	<u>TOTAL</u>
Fall/Lift Assist	6	9	12	27
No one to help them	11	4	12	27
Need transportation to hospital	6	7	7	20
Sick	7	2	8	17
Wanted to be checked out	3	0	0	3
Pain/Sprain	5	4	3	12
Anxiety/Stress	0	0	3	3
Out of Medication	1	1	3	5
Doctor advise to go	1	3	1	5
Extend care facility transport	0	0	2	2
Non-compliance with meds	0	0	1	1
Locked out of home	1	1	0	2
Foreigner/Visitor not understand english	1	0	0	1
No insurance for office visit	1	1	0	2
Constipation	0	1	1	2
Someone else called	0	1	1	2
Need help to/from bathroom/bedroom	0	0	1	1
Kinked 02 Hose	0	1	0	1
*Multiple answers per survey, #'s will not match due to variety of answers.				

The final question asked of Carmel Firefighters on shift who responds to 911 calls for emergent medical calls asked; could CFD do something proactively to prevent the non-emergent 911 calls for service. If so, what could CFD do to prevent these calls? The largest number of responses was that firefighters did not know what to do to prevent these runs from happening. It

was apparent that the firefighters have grown accustomed to responding to these calls and it is just what we do. A few of the responses in this category spoke of a 911 system which was broken. These responders did not elaborate on the answer given. Five of the responses (all from B shift) asked for CFD to do nothing regarding these calls for service. They were concerned if these runs would count towards the year-end total and that there would be lost revenue to the city and the department by not transporting the patient(s). Several answers touched on firefighters not judging those who call 911 for any reason. It was pointed out that the word service is a core value of the Carmel Fire Department. (Haboush, 2011, p. 17) The other responses to the question of CFD doing something proactively to prevent non-emergent 911 calls provided very good incite and solid information to build upon. The positive responses from the survey were:

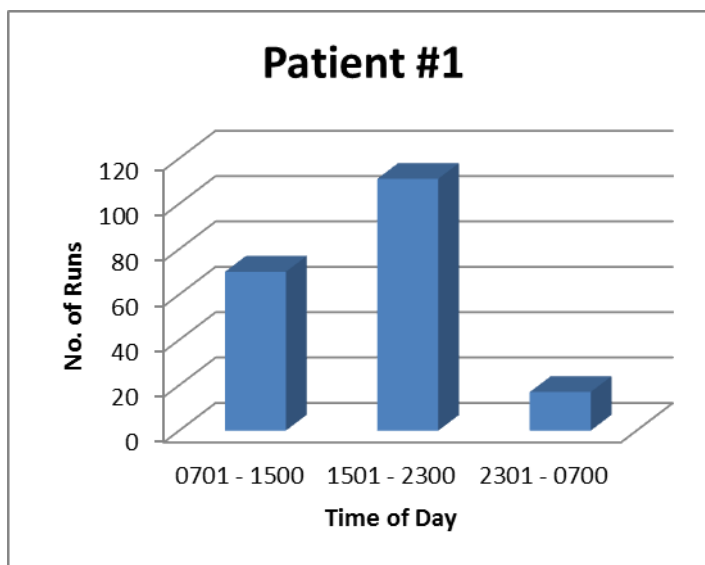
- CFD to distribute information about clinics and other resources afforded to the community for medical treatment.
- Others asked for CFD to educate the public on calling 911 and what was an emergency.
- Some responders asked for CFD to continue with educating doctors' offices and also work with extended care facilities/nursing homes regarding emergent responses verses transporting a patient to an Emergency Department.
- All three shifts asked for CFD to conduct continuing education for all 911 dispatchers regarding emergent medical calls.
- One shift asked for staff members within the Administration to respond on emergent medical calls.
- Another suggestion was for CFD to follow up and continue to follow the patients after we have finished with the run.

- There were requests for CFD to start a database and track the names of patients and the locations where they were found during the response.
- Another request was for CFD to establish a phone number for people or patients to call for information regarding a medical condition. (Appendix E)

*Question 4. Of the reasons given for calling 911, could CFD do something proactively to prevent the non-emergent 911 calls for service? If so, what do you believe we could do?				
	<u>A</u>	<u>B</u>	<u>C</u>	<u>TOTAL</u>
Distribute information/resources/clinics	4	2	3	9
Educate public about 911	5	4	11	20
Educate E.C.F/Doctors Office	4	5	3	12
Educate dispatch	2	2	2	6
Staff cars respond on runs	0	0	3	3
FD follow up with patients	1	0	1	2
Track names and locations of patients	1	2	0	3
Est. call for help phone line	0	0	1	1
Charge more for abuse	0	0	1	1
Don't want to prevent non-emergent calls for EMS, lost revenue	0	5	0	5
N/A - No - We should not judge 911 system, broken	21	12	18	51
*Multiple answers per survey, #'s will not match due to variety of answers.				

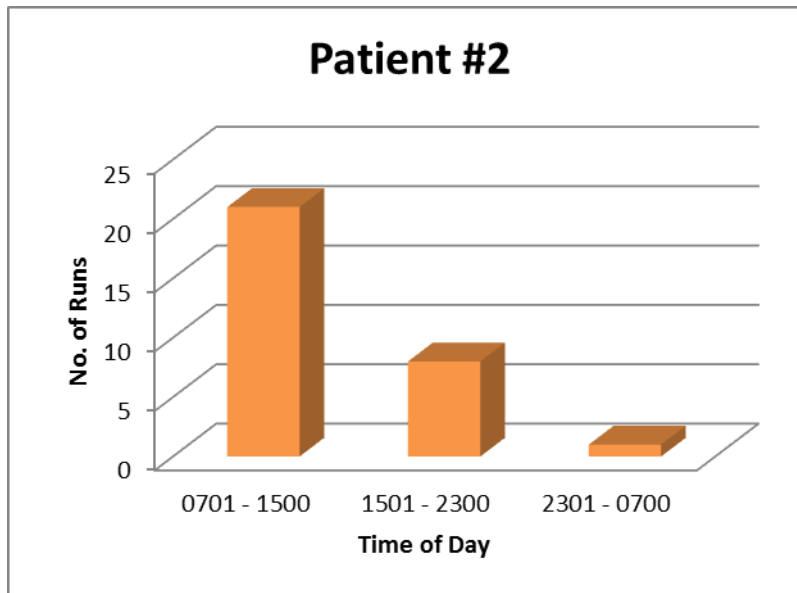
The results for the CFD emergent medical services responses within the Carmel Clay Community were established through locating names and addresses for the 5 highest frequency users in Carmel Clay Township. The patient names and addresses were intentionally not contained in this project to ensure that there were no Health Insurance Portability and Accountability Act HIPAA violations. (<https://www.hhs.gov>).

The most frequent request for service was from Patient number 1, a 67 year old male who lived with his wife in a single family dwelling. This patient's chief complaint was the need for assistance or lift assist. CFD responded to this patient's home 198 times in a two year time period. There was a slight variation on the call type due to multiple firefighters entering information into the reports. He lived with his wife and she was not able to assist him when he would fall. They had no one else to assist with moving the patient other than CFD. The vast majority of this patient's non-emergent calls were during the time period of 1501-2300.

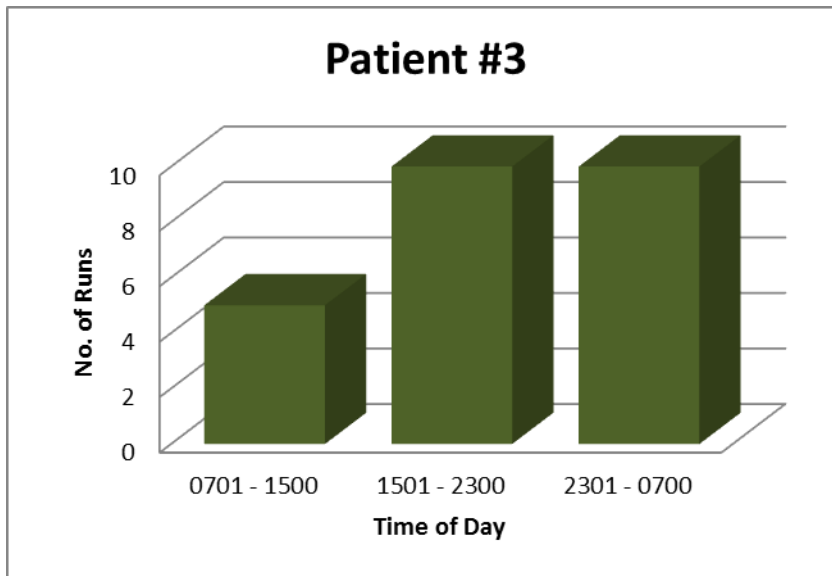


The second most frequent request for service was from Patient number 2, a 63 year old male who lived alone in an apartment complex. This patient's chief complaint was weakness, tired and generalized pain. CFD responded to this patient's home 30 times in a 9 month period. 28 of the 30 responses were in a two month period of time. With this patient there was a slight variation on the call type due to multiple firefighters entering information into the reports. This patient had no one else to call for help. He relied solely on CFD to assist him. This patient was eventually moved into an extended care facility with the help of CFD and social workers from

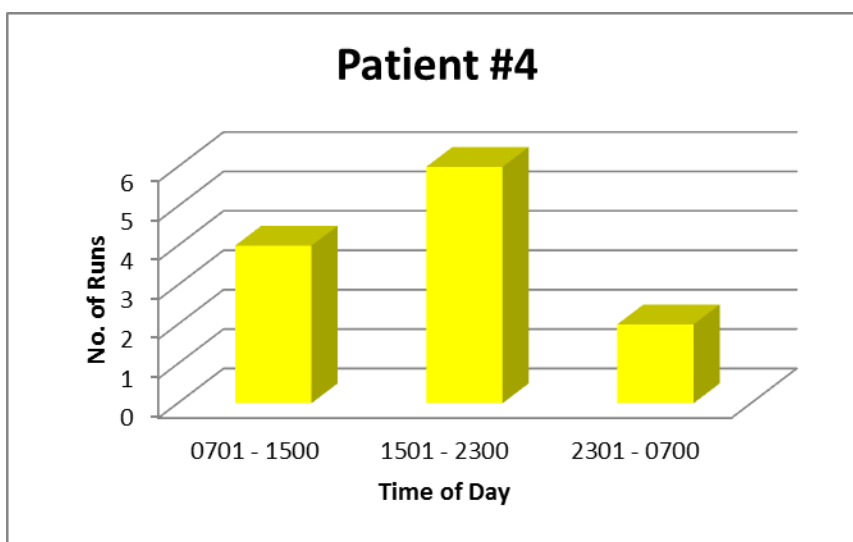
the local hospital. The majority of this patient's non-emergent calls were during the time period of 0701-1500.



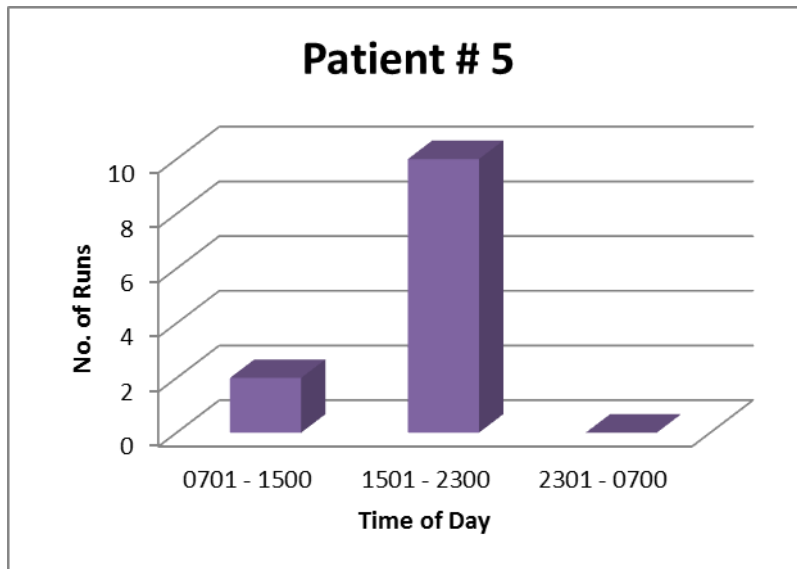
The third most frequent request for service was from patient number 3, a 68 year old female who lived with her husband in a single family dwelling. This patient's chief complaint was listed as E.M.S. call. Upon further follow up the patient's medical problem was due to alcoholism. CFD responded to this patient 25 times in less than a two year time period. The husband of this patient was unable to assist her when she was having medical problems. They relied on CFD for assistance. CFD does not know what happened with this patient. There was not any long term follow up. The calls for service just stopped coming into CFD for E.M.S. assistance. The majority of this patient's non-emergent calls were evenly distributed between the time period of 1501-2300 and 2301-0700.



The fourth most frequent request for service was from patient number 4, a 47 year old female who lived in a single family dwelling with her parents. This patient's chief complaint was mental issues and difficulty breathing. CFD responded to this patient 11 times in an eight month time period. This patient lives with her family. Her family was not able to care for her medical condition. There has not been any follow up from CFD on this patient's condition or status. The majority of this patient's non-emergent calls were during the time period of 1501-2300.



The fifth most frequent request for service was from patient number 5, a 45 year old male who lives in a single family dwelling with his mother. This patient's chief complaint was alcoholism. CFD responded 12 times in a four month time period. There has not been any follow up from CFD on this patient's condition or status. The majority of this patient's non-emergent calls were during the time period of 1501-2300.



Discussion

In reviewing the results obtained through the CFD and looking at the research information, it appears the Carmel Firefighters are very similar and in line with some national statistics. The national average of non-emergent 911 medical calls for service is 6 percent. (Clawson, 2008). CFD had 58 of 107 surveys received or more than half of the firefighters answered 5 to 10 percent of all CFD calls are non-emergent. Carmel Firefighters beliefs are in line with the national average.

D.C.F.E.M.S. street calls outreach program looks at the highest frequency users in their system at any given time. The current research asked who was making the calls. Many of the

callers were third party callers, good samaritans, who were close by when an event occurred.

Documenting who made the call did not aid in this research. D.C.F.E.M.S. does not track who places the calls and confirmed that it would have little bearing on the outcome for the street calls program. This question proved to be of little use for this research due to the caller not always being the patient initiating the call for service. Only the patient names are part of the fire department record keeping information. D.C.F.E.M.S. tracking system appears to be well thought out and provide the desired purpose.

CFD's top 5 highest users and their calls for non-emergent 911 calls were identified by the first responders was very similar to the OMEGA Project and Street Calls Outreach Program.

Carmel Fire Dept.	Omega Project	Street Call Outreach Program
1. Fall/lift assist	1. Sickness	1. Homelessness
2. No one else to help	2. Falls	2. Non-compliance w/meds
3. Need transportation	3. Minor trauma	3. No primary Doctor
4. Sick	4. Diabetes	4. No help in the home
5. Pain/sprain	5. Psychiatric illness	5. Chronic illness

CFD Firefighters did note that their non-emergent patients suffered from anxiety and stress, non-compliance with medications, lack of primary doctor, and insufficient care in the home (no help).

The problems facing the fire service are very similar when dealing with non-emergent patients regardless of the city or state. (Appendix D)

*Question 3. During the non-emergent EMS calls for service, does your patient describe why they called 911? If so, what are some of the reasons?				
	<u>A</u>	<u>B</u>	<u>C</u>	<u>TOTAL</u>
Fall/Lift Assist	6	9	12	27
No one to help them	11	4	12	27
Need transportation to hospital	6	7	7	20
Sick	7	2	8	17
Wanted to be checked out	3	0	0	3

Pain/Sprain	5	4	3	12
Anxiety/Stress	0	0	3	3
Out of Medication	1	1	3	5
Doctor advise to go	1	3	1	5
Extend care facility transport	0	0	2	2
Non-compliance with meds	0	0	1	1
Locked out of home	1	1	0	2
Foreigner/Visitor not understand english	1	0	0	1
No insurance for office visit	1	1	0	2
Constipation	0	1	1	2
Someone else called	0	1	1	2
Need help to/from bathroom/bedroom	0	0	1	1
Kinked 02 Hose	0	1	0	1
*Multiple answers per survey, #'s will not match due to variety of answers.				

In looking at moving forward with a proactive approach, many CFD Firefighters gave very useful information to assist in getting the non-emergent patient the help they need. Education was the key in starting to change the outlook regarding these runs. Cleveland E.M.S. took on a positive media campaign to educate the public and to announce the proactive changes to their prioritized response system. (Doyle, 2010).

In Upland California, the city and fire department are considering starting to charge the skilled nursing home facility for non-emergent calls for 911 emergent services. They had asked the facility to utilize private ambulance services to transport non-emergent patients as the department responds to emergency calls for EMS. (Emerson, 2011). Carmel has also asked the nursing home facilities to utilize private ambulance services for transportation. It was reassuring to know that other fire departments are exploring options to attempt to get extended care facilities and nursing homes to comply with this policy.

After compiling the data from CFD and comparing this information to other programs that have been implemented around the country it's apparent that many of the same issues exist

in this community. The highest frequency user of the 911 E.M.S. system utilized CFD 198 times in a two year period. Virtually all of the requests for service were non-emergent and would fit into the OMEGA category if CFD had a system in place. Most of the requests for help did not result in the patient being transported but it did take an ALS ambulance out of service in order to respond to a non-emergent call for service. This would mean that firefighters would not have responded on these calls for help. Rather, if CFD had a system such as the OMEGA Project or Street Calls Outreach Program in place we could have potentially helped this patient with the services he/she really needed.

Recommendations

In researching the underlying factors associated with non-emergent 911 calls for emergent medical services in the Carmel Clay Community, new information has been discovered. The following are recommendations for the CFD to consider implementing in the near future.

The first recommendation for CFD would be to locate and purchase one software program for the reporting of runs, EMS documentation of runs from firefighters and ambulance billing. Currently CFD utilizes 3 different programs and they are not compatible. After the ambulance patient report is finalized, the billing department has to manually re-enter the information in order to bill the patient for services. In utilizing one software program CFD would be able to track patient's needs and a history of calls through name, location, time, and call type.

Recommend CFD create a database to track names and locations of patients who need more than an emergency department can provide. Review this database to identify the highest

frequency users to gather information to give an initial report after the interaction with the fire department. This would be followed by continued long term contact with the patient and a referral made, if needed, to ensure that the community needs are truly being met by CFD. And recommend CFD analyze run reports in relation to the time of day these non-emergent calls are occurring and staff accordingly.

Recommend CFD to research and analyze the D.C.F.E.M.S. program Street Calls Outreach Program for adaptability to the Carmel Community. A referral program after the initial contact would be the key in the success of this process.

Recommend that CFD and the 911 call center research and identify some type of prioritizing EMS call system. Identify positive characteristics from the Omega project for implementation in the 911 Dispatching Center.

Recommend CFD to identify community partners such as, Carmel St. Vincent Hospital, I.U. North Hospital, Central Indiana Council on Aging C.I.C.O.A., Prime Life, local businesses, and clinics to assist in providing for the true needs of the non-emergent callers and to do outreach within this community. These partnerships could become the cornerstone of a patient advocacy program through actions, information, and education for the Carmel Clay Community.

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Appendix A

EMS Survey for Carmel Fire Department

The purpose of conducting the survey is to gauge whether or not CFD is responding to non emergent EMS calls. By conducting this survey I hope to identify some of the underlying factors associated with these calls through your thoughts regarding EMS runs. The questions are open ended to give you an opportunity to answer freely rather than multiple choice questions. The goal is to identify some of the causes (if any) of non emergent 911 calls for EMS through your responses.

Questions:

1. Do you believe CFD responds to non emergent 911 E.M.S. calls for service?

2. If so, what percentage of E.M.S. calls do you believe are not emergent?

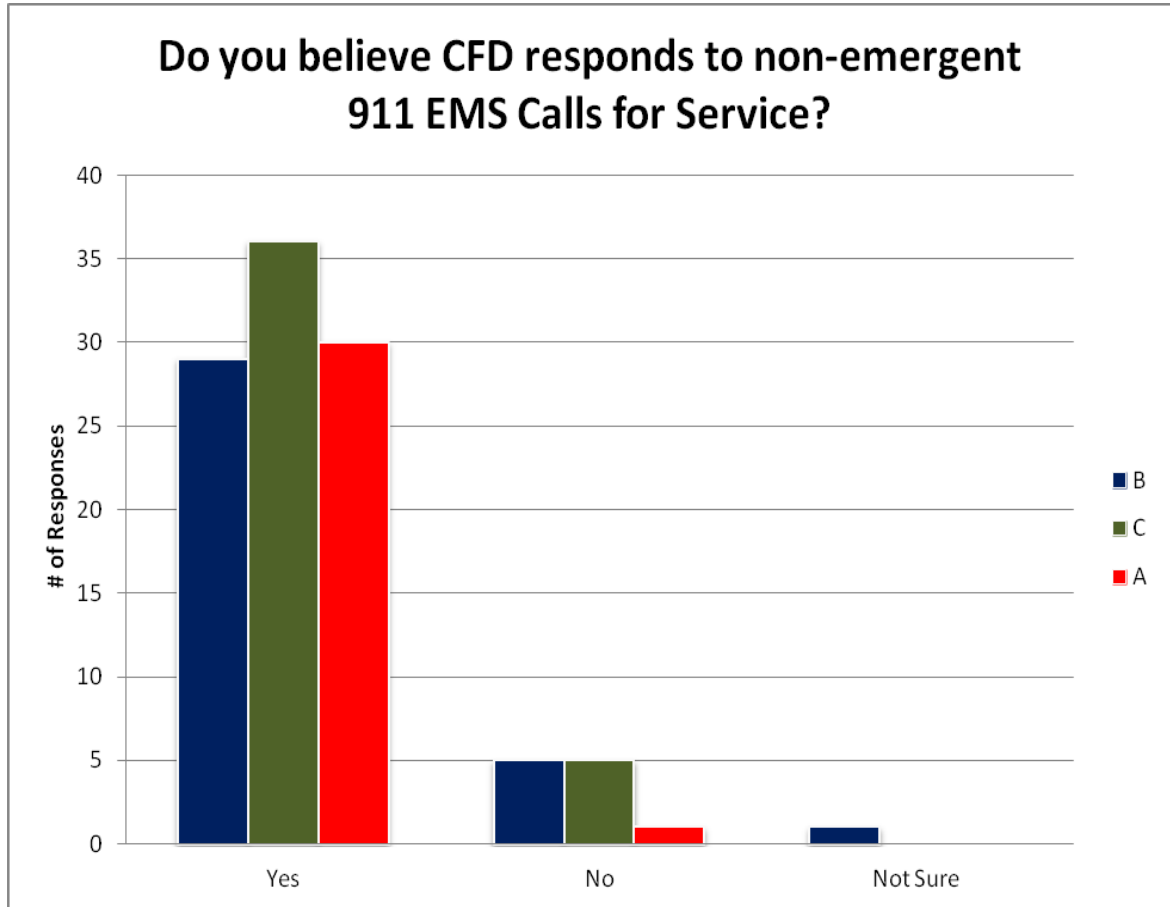
3. During the non emergent E.M.S. calls for service does your patient describe why they called 911? If so, what are some of the reasons?

4. Of the reasons given for calling 911, could CFD do something proactively to prevent the non-emergent 911 calls for service? If so, what do you believe CFD could do to help prevent some of these calls?

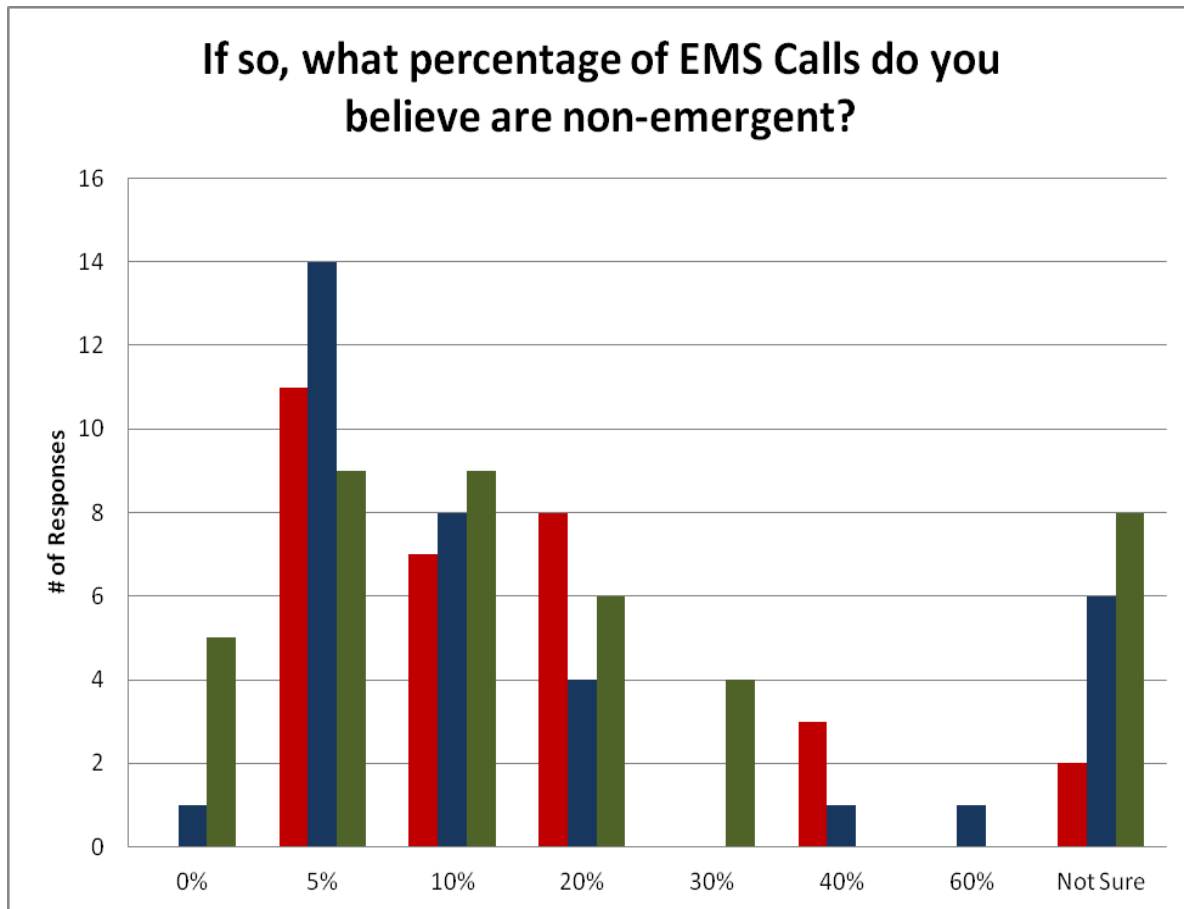
The goal is... if we can predict some of these runs we can work toward preventing them. Thank you for your help in this survey.

Dave Haboush

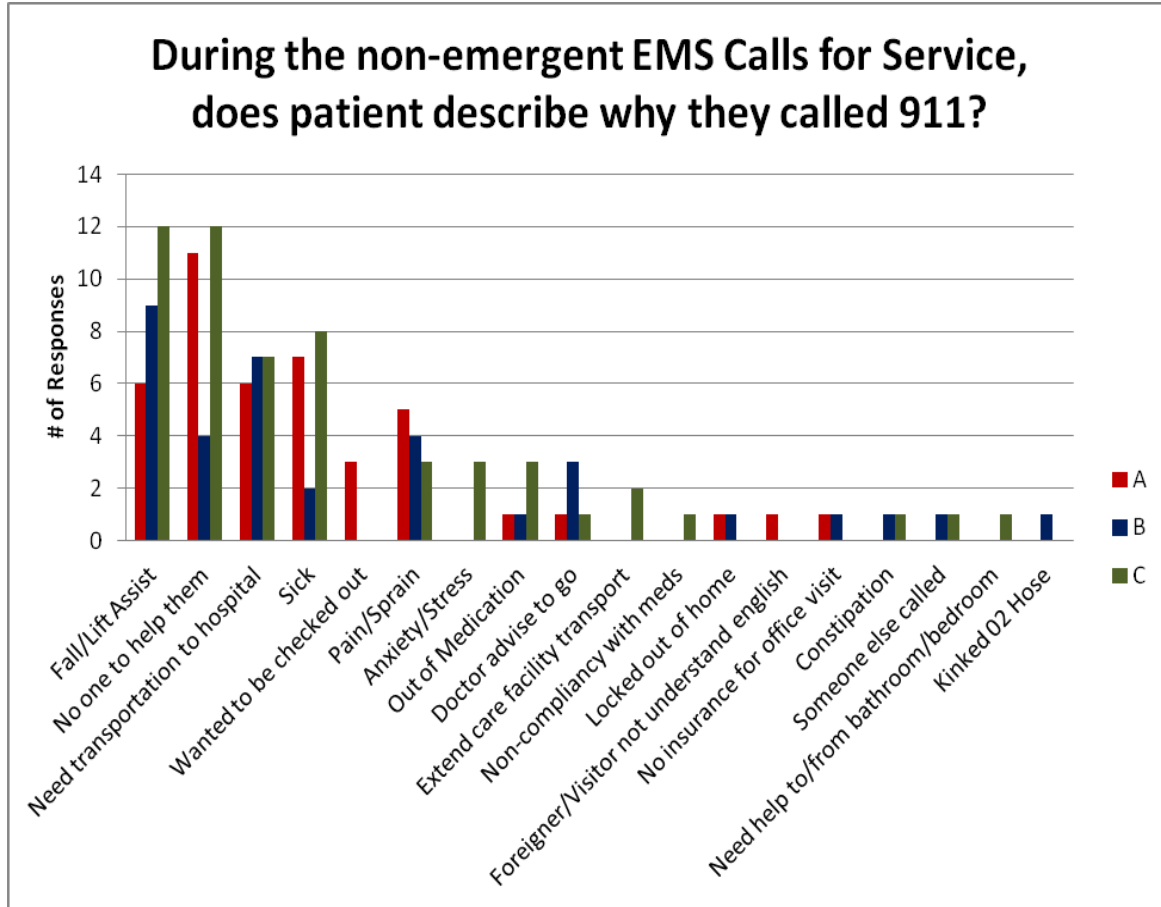
Appendix B



Appendix C



Appendix D



Appendix E

